Top O' the Morning (TOM) sells high-end stone countertops mostly to residential customers, but some commercial customers too. Customers may be looking for a single countertop for a kitchen or bathroom, or they may be looking for multiple countertops while building or remodeling an entire home or office.

TOM doesn't record information on a customer unless we know at least the customer's first and last name and cell phone number. Once we have that much information, we will assign them a customer number and enter them into the system. Customers contract jobs with TOM. A job is for the purchase and installation of one or more countertops. Some customers, especially residential developers, can have lots of jobs with TOM. It is also possible that a customer has been entered into the system prior to committing to a job with TOM. Since remodeling and building projects often involve couples or teams of associates working together to build or redesign a house, a single job can be associated with multiple buyers. For example, Evan and Lauren Miller are remodeling their home. They have contracted with TOM for a new kitchen cabinet countertop, a kitchen island countertop, and a bathroom vanity countertop for a hallway bathroom. This single job involves two customers and three countertops. A job must be associated with at least one customer and must include at least one countertop. The job is given a job number, which is recorded along with the address where the work is to be done. The system also needs to store the date the job agreement is created, and the estimated date when the job is expected to start. In the example, Lauren and Evan select their three countertops and sign the deal with TOM on April 26th. They estimate that their remodeling efforts will be ready for the countertops on May 23rd. It is possible to modify the details of the job agreement after it is created. For example, on April 30th, Lauren and Evan may decide to also get a new countertop for the bathroom vanity in the primary bathroom too.

TOM has many different materials to choose from when picking out a countertop. Every material has a name, a primary color, and an accent color. TOM provides both granite (natural stone) and quartz (engineered stone) materials. For granite, the country of origin of the stone needs to be recorded. Natural stones are not uniform in their color patterns so granites are rated on the variability of their colors and patterns. This variability rating (low, medium, high) is recorded for the granite materials. Additionally, natural stones vary in their porosity. Porosity is the degree to which the stone allows liquids and gases to soak into the stone, which can cause staining if it is not well maintained after installation. The porosity rating must also be recorded for granite materials. For example, Umbarado is a highly porous granite from Brazil. It is primarily black in color with gold accent in a swirling pattern. The color and pattern can vary widely so one piece of Umbarado can be ebony black with large golden swirls, while another piece of Umbarado can be a faded black color with few small swirls of gold color.

Quartz materials are manufactured by combining crushed quartz and other aggregate materials with high quality resins to produce a uniform material. TOM carries a variety of quartz materials. The quartz materials have a quality rating (A, B, C, or D) with "A" being the highest quality quartz and "D" being the lowest quality, which must be recorded in the system. Additionally, for each quartz material, the percent of resin used in making it, and the level of veining need to be recorded. Quartz materials typically range from 8% to 14% resin. Lower resign content is typically (but not always) found in higher quality quartz. Veining is the degree (on a scale of 1 - 10) to which the accent color is asymmetrically distributed to resemble the patterns of natural stones. Low veining means a symmetrical distribution of the accent color, while high veining means the distribution is very asymmetrical.

TOM purchases all materials in slabs of stone. A slab is a large piece of material from which one or more countertops may eventually be cut. Each slab of material has a thickness, length, and width that must be recorded in the system. Slabs also have a price per square foot that is used to calculate the material cost for a countertop. Each slab is made of one and only one material. It is possible for TOM to offer materials for which they have never owned a slab, but TOM can have multiple slabs of popular materials. Slabs also have a cut status. Slabs that are still completely intact have a status of "full". For example, TOM currently has three slabs of Umbarado. One slab is 3cm thick, and the other two are 2cm thick. Both 2cm thick slabs are full slabs, and measure 72" x 96" in size. Once a slab has had a countertop cut from it, the status is changed to "remanent", and the length and width are changed to match the current size of the remanent slab. In the example, the 3cm slab of Umbarado has had two countertops cut from it, and it is now only 27" x 39". Once a slab has been cut down so small that it is no longer useful, the status is changed to "scrap", and the length and width are set to zero.

Each countertop is custom cut from a slab for a job. Every countertop is associated with just the one job for which it is cut. No countertop will be cut unless it is for a specific job. Naturally, ever countertop must be associated with the slab from which it is to be cut. The countertop is cut according to a specific cut pattern that gives the details about the shape, holes, beveling, etc. for the countertop. The pattern design process is NOT part of this database. For the purposes of this database, all we need to record is the pattern number that is on file for a countertop. The specific cut pattern is a 3D CNC file kept outside this system. The current database also needs to store the weight of the countertop, the maximum length, and the maximum width of the countertop (for delivery planning). The status of the countertop (uncut, cut, or installed) must also be recorded.

When the buyer decides on each countertop, the finish for the countertop must also be decided and recorded. There are a wide variety of finishes available (glossy, brushed, fired, etc.), and the customer must choose a finish for each countertop in a job. The material price for the countertop should be stored. This is calculated using the square foot cost of the slab, the size of the countertop, and the complexity of the cut pattern. This database does not need to be concerned with the calculation of the material price for the countertop, but it does need to store the material price once it is calculated outside the system. This is recorded along with a quoted labor price for the installation of the countertop.

Since each countertop is customized, it would be an expensive issue for TOM if customers canceled countertops after they were cut. Therefore, a deposit must be paid on each countertop before that countertop is cut. Note that this is not a deposit on the job overall – it is a deposit that must be paid on each individual countertop. The required deposit amount can vary from countertop to countertop within a single job. While this database will not include the full scope of activities associated with payments for jobs, it does need to store the amount that was deposited on each countertop and the billing address for the customer making the deposit.